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Cover Story — Page 4 Internet gaming reaches a new level with the release of

"America's Army: True Soldiers" for the Xbox.

Image courtesy Ubisoft



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America's Xbox Army

"True Soldiers," the latest evolution of the hugely popular Army-sponsored video game "America's Army," is introducing players to a whole new level of challenges and accomplishments.

Blazing a Trail to New Technology

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Developing New Life-Saving Technologies ... and we take a closer look at some of RDECOM's innovative, cutting-edge technologies.

Combating PTSD

A new therapy for battling Post Traumatic Stress Disorder — using virtual reality — is being finetuned at Madigan Army Medical Center at Fort Lewis, Wash.

AMC Technologies

Because Soldiers need more than just beans and bullets to survive and succeed in Afghanistan and Iraq, the U.S. Army Materiel Command is constantly developing new vehicles and technologies.

Friendship Through Sport

Thousands of military athletes from 128 nations will gather this month for the Conseil International du Sport Militaire's Military World Games in India.

Big Changes for Camp Humphreys

Scheduled to be the home of U.S. Forces, Korea, by 2012, the once-small post is undergoing one of the largest transformations in Army history.

Holding Ground at Graf

Environmental planning and restoration efforts at the Army's sprawling training center in Grafenwöhr, Germany, will ensure that Stryker units will be able to train at the Bavarian post for years to come.

A Tribute to the Fallen

A young National Guard Soldier has turned his 2004 Infiniti G35 into a high-performance work of art to honor three comrades killed in Iraq.



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We Want Your Story

The Army is our nation's greatest resource in defense of our homeland. Every day Soldiers and Civilians perform acts of valor. The heroic acts performed on the battlefield and the acts of kindness from humanitarian efforts demonstrate the strength of the Army. We want to tell your story. To find out how the Soldiers Media Center can tell your story, contact your unit public affairs officer or send your submissions via email to

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Soldiers

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IAGC Blue Pencil Competition

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Guard MP Slight?

WE just received the August issue and, being MPs, we dove into the article "MP Challenge."

But to our dismay, there was no mention whatsoever of one of the only National Guard MP teams to compete iin the MP Warfighter Challenge — the Massachusetts Army National Guard's 211th MP Battalion team.

We realize that space in Soldiers magazine is limited, but since we were the only Guard team to finish in the top 20 we thought we'd at least get a mention.

Thank you for a fine publication, but in the future please remember that "Soldiers" means active. Guard and Reserve!

> Sgt. 1st Class Thomas A. Murphey via e-mail

SOLDIERS magazine always strives to give credit where it's due, and we cover National Guard stories in virtually every issue. However. when non-staff reporters submit stories to us, we rely on them to provide as complete an article as possible. In this case, the reporter chose only to list teams that placed in the top three.

I REALLY enjoyed your August article "MP Challenge." People both inside and outside the Army too often forget that MPs are combat Soldiers as well as community police, and it's great to see an article that shows MPs demonstrating the skills that they use in Iraq and Afghanistan every day.

Keep up the great work!

Spc. James Franz

via e-mail

Anchors Away...

YOUR August article "Launching the JHSV," was very interesting — like most people, I didn't realize that the Army had been operating high-speed ships.

As a former Sailor, though, I have to ask: Isn't it a waste of money for the Army to operate its own fleet of boats and ships when the Navy provides all the sealift the Army would ever need?

> Mr. Arthur Olner via e-mail

WHILE it's true the Navy has quite a nice collection of ships and boats, and while Army vehicles and supplies are carried on Navy-owned fast sealift ships, the Navy is not normally responsible for getting all that Army materiel from the ship to the shore. That task falls to the Army, and the Army's fleet of watercraft exists for that purpose — to move Army vehicles, equipment and supplies to the beach and around coastal and inland waterways. And, bear in mind that the Army operated its own watercraft before the Navy officially existed, so its something that Army mariners feel they're particularly good at.

Battling PTSD

YOUR August story on PTSD was interesting, but I can't help but wonder why, more than 30 years after the end of the Vietnam War. this nation is still struggling to provide the right kinds of treatment for servicemembers suffering from PTSD.

As a Vietnam vet who struggled for years with PTSD — most of the time on my own, ignored by society in general and the Veterans Administration in particular — I sympathize a lot with Spc. Goins and all the other Gls who are struggling. We owe these people the best possible treatment, since they're putting their lives, and their emotional well-being — on the line for all of us.

> Name withheld by request via e-mail

THE August article "Battling PTSD" was great,

and I take my hat off to Spc. Goins and his wife for being so up-front about their struggles with what seems to be the most common "wound" of the war on terror.

One thing that I think still needs to be addressed, though, is the fact that seeking help for PTSD can still end up hurting a Soldiers career. There are too many people in the Army who still think the best response to PTSD is to "suck it up and move on," and who think that anyone who's smart enough to seek professional help is somehow weak or even unpatriotic.

When I got back from the sandbox I had many of the same problems Spc. Goins was experiencing, but I kept everything to myself because in my unit anybody who even hinted at depression or some other emotional problem was ridiculed unmercifully. So I just locked myself down, and in the end PTSD cost me my wife and most of my self-respect.

I finally got smart and got help, and things are getting better, but it's been a long and hard road. I urge all Soldiers to swallow their pride, use their heads, and get help as soon as they realize they have a problem.

> Name withheld by request via e-mail

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To comment, keep your remarks to under 150 words, include your name, rank and address and send them to:

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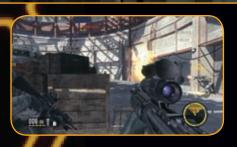












The game's development team has produced effective and engaging virtual learning tools for force protection, adaptive thinking and leadership, and convoy survivability, as well as applications ranging from mission rehearsal to modeling advanced weapon and fire-control systems.



vehicle, Army officials said. Players can even give each other "coins" for saving a battle buddy and receive awards for valor.

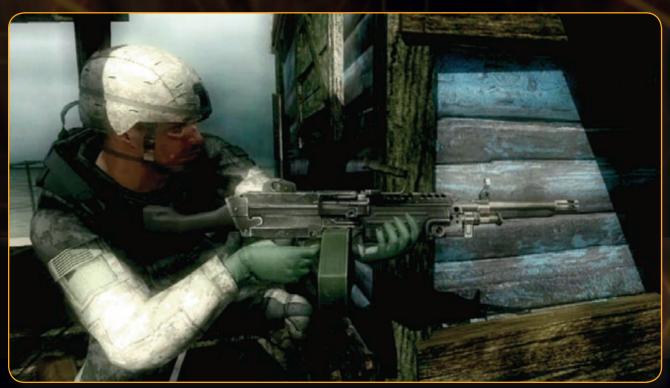
Training and marksmanship tests reflect real Army standards, and uniforms, guns and other equipment model the real things.

"We have all these weapons in our

studio and artists can actually model them and texture them to make them look as real as possible," said Mr. Randy Greenback, creative director for the game. "Thanks to the Army, all of our developers were trained on how to load and fire weapons, and we actually went out and did some training at Fort McClellan, Ala. We

put everything we learned and experienced into the game."

The game focuses on leadership and teamwork, so groups play together as units, but players may also participate individually. "We have a very intelligent enemy and they will do advanced maneuvers," said Mr. Greenback. "They know where you



are. They hear you. They will try to figure out the best way to engage you. You have to think tactically and move carefully to carry out the mission."

"True Soldiers" is filled with background information on ranks, units, specialty occupations and the core Army values of loyalty, duty, respect, selfless service, honor, integrity and personal courage.

It also tells the stories of "America's Army: Real Heroes," six real Soldiers who received Silver Stars or Bronze Stars with "Valor" device for heroism in combat. The game manufacturer also released four action figures of the Soldiers for sale in stores in August, and two more will be available later this year.

"It's a great way to tell our stories," said real hero Sgt. Tommy Rieman, who will literally be the face of the game. "It's an honor and it's pretty cool.

Army Sgt. Tommy Rieman shows what his character will look like in "America's Army." Sgt. Rieman is among the first participants in the "America's Army: Real Heroes" program, which honors Soldiers who have shown heroism in the large of the real by the shown heroism in the war on terror by making them into characters in the video game and action figures.



"This is all very authentic, even down to the face paint, the goggles," he added. "This is one portion we bring to the table. We show them what a Soldier looks like, and then the designers put it into the game and

you have the U.S. Army."

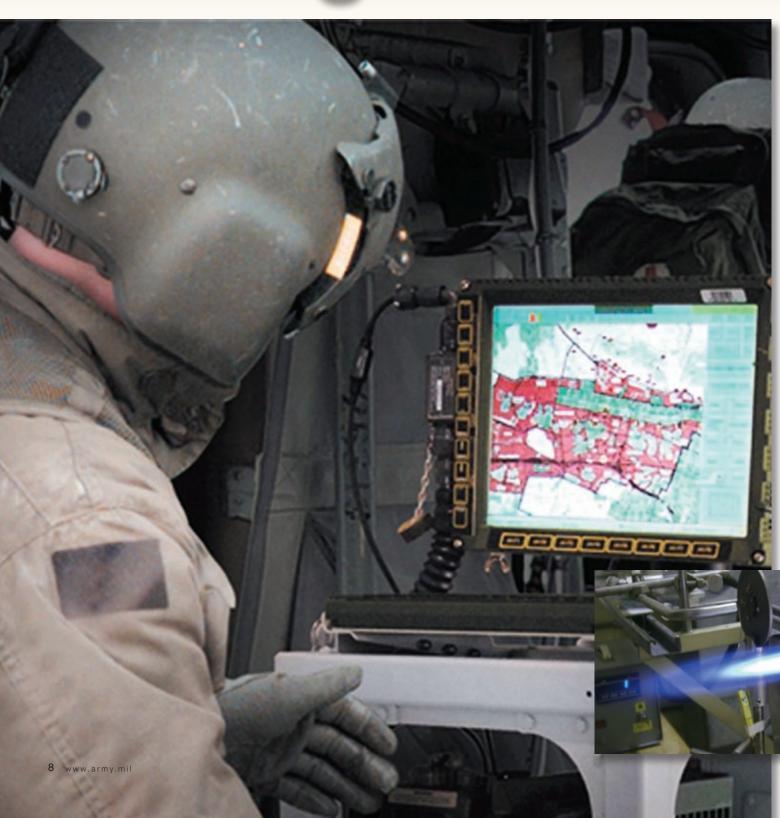
Parents concerned that the game is a little too life-like can set the program to use non-lethal training ammunition only. Enemy soldiers will simply sit down after being shot.







Blazing a Trail to



New Technology

Story by Mrs. Heike Hasenauer

HERE have been significant improvements in Soldier protection from head to foot since the war on terror began, said Maj. Gen. Roger A. Nadeau, until recently the commander of the Army Research, Development and Engineering Command at Aberdeen Proving Ground, Md.

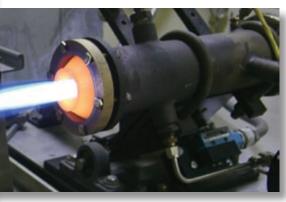
The organization boasts an annual \$3 to \$5 billion budget to develop new technologies that will provide Soldiers the best equipment and the advantage on the battlefield.

Using Research Dollars Wisely

"The issue for us is whether or not we're doing the right thing with the money we have," Maj. Gen. Nadeau said.

"We're much in alignment with what's being done by Maj. Gen. Charles Cartwright's Future Combat Systems team. As the Army's program manager for FCS and what's

RDECOM's Aviation and Missile Research, Development and Engineering Center developed the airborne version of the Blue Force Tracker situational-awareness and command-and-control system.





called 'network-centric warfare,' Maj. Gen. Cartwright is focused on developing technologies for manned and unmanned systems that can ultimately be connected by a common network," Maj. Gen. Nadeau said.

The eight RDECOM laboratories and research centers are directly or indirectly in sync with Maj. Gen. Cartwright's technology-development timeline, he added, because it's "the most efficient way we can invest our futuristic-technologies dollars."

At the same time, Maj. Gen. Nadeau said the U.S. Army Materiel Command (RDECOM's headquarters) and RDECOM officials are very

The Army Research Laboratory developed a high-velocity burner-erosion ring to evaluate the erosion resistance of coatings applied to helicopter engines to prevent performance degradation because of sand erosion.

In an interview with Soldiers magazine before assuming his new position as commander of U.S. Army Test and Evaluation Command. Maj. Gen. Roger A. Nadeau spoke about RDECOM's mission and accomplishments.

mindful that if a technology shows promise — if it looks like it could be advanced faster than originally thought and benefit Soldiers — "then we work to get it onto the battlefield sooner."

That's only a part of what the RDECOM does.

"We also have to make future investments in communications, sensor arrays and other technologies that we believe will take five to seven years to develop," Maj. Gen. Nadeau said.

"If all of a sudden we decide that the technology developed faster than we thought it would, we have to ask ourselves, 'If we put some more dollars into this, could the technol-



ogy be ready earlier," he added.
"That's done on a daily basis inside
this command, in conjunction with
the Army's chief scientist and senior
leaders."

Focusing on Immediacy

When the war on terror began, the Army's research labs "put a lot of energy up front to deal with the immediacy of individual Soldier protection and vehicle protection," he said.

Improvements were made to helmets, body armor and weapons
— basically all technologies that affect Soldier protection, he said.

The enemy's increasing use of improvised explosive devices and explosively formed projectiles prompted improvements in armor protection, Maj. Gen. Nadeau said.

"Major changes continue to be made to better protect Soldiers inside vehicles from these blasts," he said. "Tremendous improvements have been made to armor protection for the Humvee, and more improvements are coming.

"I don't know that I'd ever say our responses can make everything better. But the situation for our Soldiers in Iraq and Afghanistan will get better as we anticipate and react before situations become insurmountable," Maj. Gen. Nadeau added.

As examples, "we saw a problem in protecting Soldiers who were up in gun mounts, firing weapons from unprotected positions," he said. "Now, you no longer see a Soldier up in an unarmored gun mount. And, when we saw sniper problems, we beefed up body-protection initiatives. And those continue."

More Than "Obvious" Solutions

"But you shouldn't assume that the only improvements to safeguard

A Soldier wearing a Land Warrior ensemble uses his M-4 carbine during a small-arms firing task at Aberdeen Proving Ground, Md. Such advanced technologies will ultimately change the nature of combat.

Soldiers riding in vehicles are made to the vehicles," Maj. Gen. Nadeau said. "Don't assume that surviving the event is the only thing a Soldier can do."

Technologies are in the works that could allow Soldiers to avoid potentially life-threatening events in the first place, he added. "I can't cite those technologies for security reasons. I can say, however, that we've added sensors on the battlefield, and things to try to detect IEDs before a Soldier gets into an IED event."

Maj. Gen. Nadeau described those "things" as "a system of layered protection."

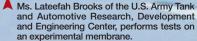
A first line of protection includes armored vests, helmets and protective layered ensembles, he said. It's pretty much up to each combatant commander to decide what the Soldier will wear for ballistic protection.

Other technologies that enhance Soldier and vehicle performance include sniper-detection, countermortar, unmanned-aerial-vehicle and robotic initiatives, Maj. Gen. Nadeau said.

"We're using unmanned aerial vehicles more widely today," he added. Over a number of years, starting with cave operations in Afghanistan — whereby robots "looked" for weapons caches — ground robotic vehicles have proved their worth by saving lives. Use of the vehicles

With a weapons platform mounted to a Talon robot, the SWORDS system allows Soldiers to fire small-arms weapons by remote control from as far as 1,000 meters away.





therefore quickly spread, "with great success," into urban operations in Iraq.

The ever-increasing effectiveness of autonomous vehicles will result in greater use of "mission packages on robotic aerial and ground vehicles," Maj. Gen. Nadeau said. At the same time, fixed sensors will be heavily used to put "eyes" on targets and lessen risks to individual Soldiers.

"We're very near to some great changes. I get excited about a lot of things," said Maj. Gen. Nadeau. "Every single R&D center is working on a major initiative to protect our Soldiers and allow them to complete their missions more successfully."

Future Combat Systems

"When you look to the future, and you look at Future Combat Systems, FCS is a small part of the collective whole of Army transformation," Maj. Gen. Nadeau said. "FCS is a subset

of the major changes that will affect Army materiel and bring everything together to provide a maximum advantage to Soldiers on combat missions.

"We're putting the concept of network-centric warfare into play today through a layered form of protection for the Soldier that consists of the best equipment and best vehicles," he said. "Through increased awareness, our Soldiers will have an 'exponential advantage' over the enemy."

Deciding the Course of Action

Decisions concerning where money should be spent in times of tight federal budgets "are not made in isolation," Maj. Gen. Nadeau added. "We don't sit in the labs, behind closed doors, and decide where to spend the money." Constant dialogue is made through a very tight connection with the Soldier.

"What Gen. Benjamin Griffin, the AMC commander, has been pushing is 'One Voice to the Soldier,' through AMC, so that we have constant awareness of Soldiers' needs and issues," Maj. Gen. Nadeau said.

"Through my command sergeant major, who has worldwide ties to all the divisional sergeants major; through senior officers who are assigned to staff positions within the RDECOM; through AMC's Army Field Support brigades; and through ties to Training and Doctrine Command and others, there's a constant exchange of information about what the combatant commanders' immediate concerns are," he said.

The challenges remain to identify the greater returns, Maj. Gen. Nadeau said. "Those who make the decisions about where the focus needs to be must constantly weigh current and future risks and remain realistic."

lew Life-Savin Story by Mrs. Heike Hasenauer

ROM bright green lasers that stun potential car-bombers to miniaturized laser designators that allow unmanned aerial vehicles to direct fire on specific targets and minimize collateral damage, the Army's Research, Development and Engineering Command at Aberdeen Proving Ground, Md., is developing new technologies to save Soldiers' lives.

One of RDECOM's development centers - the Communications-Electronics Research, Development and Engineering Center at Fort Monmouth, N.J. — is developing technologies that improve Soldiers' communication, sensor, and command-and-control capabilities, said Mr. Gary Martin, the center's director.

Joint Tactical Radio System

The Joint Tactical Radio System will be synonymous with today's mobile, wireless communications networks and will allow Soldiers to communicate using voice, video and data, Mr. Martin said. A key capability that CERDEC developed, in partnership with ITT Corp., is the Soldier Radio Waveform. Initial versions have been delivered to the JTRS program.

"An advantage to the new system is that the network can 'reform' itself," Mr. Martin said. If one communications node is lost, damaged

or out of communications range, information goes directly to the next available node.

Through a heads-up display on the Soldier's helmet or on his wrist, he'll be able to gain situational awareness via digital maps and share information with others in the network.

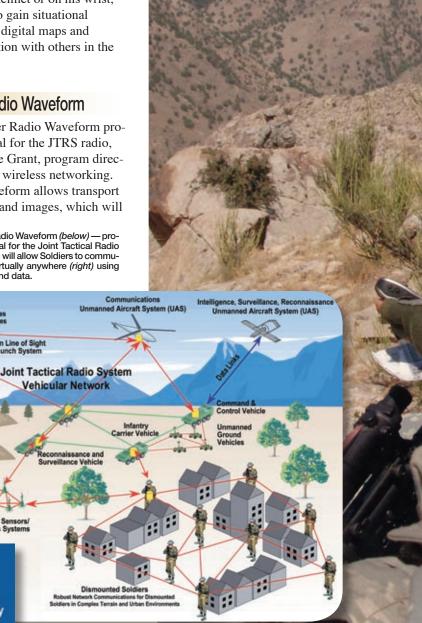
Soldier Radio Waveform

The Soldier Radio Waveform provides the signal for the JTRS radio, said Ms. Gayle Grant, program director for tactical wireless networking.

"This waveform allows transport of voice, data and images, which will

The Soldier Radio Waveform (below) - provides the signal for the Joint Tactical Radio System, which will allow Soldiers to communicate from virtually anywhere (right) using voice, video and data.

Vehicular Network





g Technologies



allow a commander to receive information from multiple sources, including Soldiers and sensors on weapons systems, to provide the most complete situational awareness possible and help commanders make the most informed decisions regarding their courses of action," Ms. Grant said.

"The waveform will provide connectivity from the foxhole to the air — from a missile in flight to a commander on the ground, via 'sensor-to-shooter' technology," she said.

Using What's Available

Because CERDEC "will never be able to spend the billions of dollars commercial companies spend on such ventures as advancements in wireless communications," Mr. Martin said, "we're doing whatever we can to leverage technology from the commercial marketplace.

"We also believe that the IEEE-based 802.16e (WiMAX) wireless standard will provide an enhanced wireless capability that will provide extremely useful and affordable capabilities for many Army applications," he added.

Replacing the "Whip" Antenna

The "whip" antenna is standard on all Army radios in the field today, but it has its disadvantages, Mr. Martin said. When a Soldier bends down or lays flat on the ground the radio's signal is severely degraded.

To eliminate the problem, CERDEC engineers have developed a 6-inch flat antenna that fits into the inside pockets of the Soldier's protective vest, one in front and one in back, connected by over-the-shoulder cables.

A longer-range plan calls for an antenna that will actually be integrated into the fabric of a Soldier's uniform or

protective garment.

Rechargeable and Solar-Powered Batteries

"We have a saying at CERDEC: "No power, no communications, no combat," said Mr. Steve Slane, chief of the center's Battery Branch.

Because virtually anything that's not part of a vehicle frame runs on batteries, some 60 to 70 CERDEC engineers daily work to develop longer-lasting, lighter-weight, solar-powered and rechargeable batteries, he said.

"Soldiers are our most complex 'platform," added Mr. Martin. "We have seen that they're quite adaptive in what they can do, but quite limited in what they can carry. So much of our focus has been on how to make the Soldier's life better by focusing on reduced size, lower weight and enhanced power sources."

CERDEC is working on a variety of power sources, from fuel cells to solar-rechargeable battery packs, he added.

Other options are lithium and zinc air batteries that contain a much higher energy capacity, allowing them to last three times as long as today's standard batteries, Mr. Martin added.

About a year ago CERDEC fielded a 55-watt, flexible solar panel that folds up into the size of a Federal Express envelope and unfolds into a 2.5-foot by 3.5-foot battery charger. It powers some 40 various pieces of equipment, including radios, laser designators and surveillance cameras, Mr. Slane said.

The panel doesn't reflect the sun's light, since that would compromise the Soldiers' position. Rather, because it's covered by a special camouflage screen, it "drinks" in



"Ghost's" bright green laser light is a nonlethal deterrent. It zeroes in on a suspect and delivers just enough power to cause acute discomfort without injury.





the sun's energy as it fends off its reflection.

In November 2006 CERDEC engineers learned that the batteries in rooftop surveillance cameras in Iraq had to be replaced daily, said Mr. Slane, compromising the safety of Soldiers who had to go on the rooftops to replace them. His team designed a cable that connected a solar panel to continuously recharge the equipment.

"As long as there's sunlight every three days, it works," he said.

A Nonlethal Laser

At CERDEC's Night Vision and Electronic Sensors Directorate at Fort Belvoir, Va., Dr. Fenner Milton is most proud of a laser-engagement system he's largely responsible for developing. Known simply as "Ghost," it was recently fielded to "the theater of operations." (For security reasons, he can't say which theater, or how many have been fielded.)

The bright green laser light, mounted on a machine gun, is used to determine the intent of occupants of an approaching vehicle, said Dr. Milton. He came up with the idea of using existing laser technology to incorporate a bundle of at least four lasers that direct light into one brilliant laser. It can then be aimed at suspects, at particular ranges and with just enough power to hurt their eyes without causing injury.

"The laser is one of the few new tools we've developed specifically for use in asymmetrical warfare," Dr. Milton said. Asymmetrical warfare is when Soldiers cannot be sure who the enemy is or where he's coming from. In this

Cerberus provides dedicated perimeter security with minimum manpower requirements, thanks to its high-tech monitoring capabilities.

case, the Soldier's protection is on his weapon, "where it needs to be," he said. A Soldier can take the next step toward protecting himself and others if the laser warning is ignored and suspect individuals don't stop and identify themselves.

"We have very good testimonials about the laser's effectiveness," Dr. Milton said.

IED-Smart Sensors

Improvised explosive devices have resulted in more Soldier deaths in Iraq than any other cause. Finding and neutralizing IEDs is another of the NVESD's missions.

"The challenge is to find IEDs in clutter," Dr. Milton said. "So we're developing very sophisticated, high-resolution sensors."

CERDEC has, in fact, converted a large portion of the countermine responsibility it assumed under previous Base Realignment and Closure Commission recommendations to combatting the IED threat.

The Cerberus System

A system of sensors called Cerberus has been designed to protect a perimeter or observe a border, Dr. Milton said. Deployed to the theater of operations and to border areas in the United States, the unattended sensors are located atop towers and at various points in the ground.

Using various tracking methods, including radio waves and infrared technology, Cerberus creates an alarm when anyone crosses the field of sensors and provides location information to field-station monitors.

The system requires little manpower, Dr. Milton said, and can be set up overnight.

Among other NVESD initiatives is the "very significant" uncooled infrared technology — "a new modality in cryogenics," according to Dr. Milton, that's used widely in systems for the individual Soldier, including rifle sights.

A traditional infrared image has to be mechanically cooled to 77 degrees Kelvin to allow the image to be seen clearly, he said. Uncooled infrared technology eliminates the need and, thus, the weight of the mechanical cooler while providing more instantaneous imaging to the Soldier on the ground.

The technology is being used today, albeit in small numbers, in the combat periscope. It affords a Soldier — via a sensor atop his vehicle's mast — a 360-degree view of his surroundings, without having to get out of the vehicle, Dr. Milton said.

Other Initiatives

The NVESD is also producing wider-field-of-view night-vision goggles that increase the viewing area to more than one-and-a-half times that of older NV goggles, Dr. Milton said. Prototypes have been fielded to U.S. Special Operations Command teams in Iraq and Afghanistan, with follow-on fielding to all SOCOM units expected to take place by the end of the year.

Sensors that "sniff" for explosives have been sent to Iraq and Afghanistan, Dr. Milton said. The sensor called "Fido" can sniff piles of rocks or garbage for explosives by sucking air through a tube and evaluating the vapors.

Future Technologies

In future ground-combat systems, third-generation infrared imaging will provide Soldiers the ability to use both mid-wave and long-range infrared technology simultaneously for target acquisition at long distances, Dr. Milton said.

Today, Soldiers must choose whether to use mid-wave or long-range infrared devices, based on target range and weather conditions. The choice is not always the best to

Keeping Soldiers Safe

ROGRAM Executive Office-Soldier designs, develops and fields virtually everything the Soldier wears or carries, said PEO-Soldier spokeswoman Ms. Debi Dawson.

Headquartered at Fort Belvoir, Va., PEO-Soldier employees' main objective is to save Soldiers' lives, Ms. Dawson said.

To that end, the organization is credited with developing and fielding the Improved Outer Tactical Vest to Soldiers deployed to Iraq and Afghanistan, said Ms. Dawson. The IOTV, which provides the same level of ballistic protection as the OTV, is three pounds lighter than its predecessor, and provides an additional 52 square inches of protection to the Soldier's lower back.

Other PEO-Soldier initiatives include the Advanced Combat Helmet, which includes a padded suspension system, Ms. Dawson said, to improve fit and stability at the same time it provides better ballistic protection than the helmet it replaced.

PEO-Soldier has also taken Interceptor Body Armor through eight improvements since 1999, providing Soldiers more protection from bullets and fragments, while adding flexibility, improving mobility and reducing weight, Ms. Dawson said.

Other improvements that have been fielded to Soldiers in Iraq and Afghanistan include:

- · Ballistic-protection inserts for the underarm, shoulder and groin
- Ballistic Laser-Protection System eyewear, which provides protection from the effects of fragmentation and lasers;

 Flame-resistant uniforms. including the Army Aircrew Combat Uniform, which integrates life-support, mission equipment and survival gear; Improved Army Combat Coveralls, which provide burn protection to crews of armored vehicles: and a flame-resistant version of the standard Army Combat Uniform;

•The Cupola Protective Ensemble — a blast and fragmentation-protection visor, trousers, jacket and front and rear protective plates — to protect Soldiers operating in the cupolas of armored vehicles from the effects of a blast from rocket-propelled grenades and improvised explosive devices: and

 A new neck pad made of ballistic-resistant fabric, which is attached to the back of the Advanced Combat Helmet, to cover the area between the bottom of the helmet and the top of the Soldier's body armor.

- Heike Hasenauer



get the job done, he said.

"One of the major efforts at the NVESD, and one of our major inhouse contributions," Dr. Milton said, "is the miniaturization of laser designators for small, unmanned aerial vehicles and dismounted operations."

The NVESD has developed a prototype miniaturized laser designator that weighs about one-third as much as a current system.

A UAV equipped with a laser designator could go into an area where the target is uncertain, find the target and "lase" it, allowing Soldiers to more precisely hit the designated target and prevent collateral damage, Dr. Milton said. The application of this technology is being demonstrated. It will be another five years before miniaturized laser designators can go into the field.

Humvee Improvements

Numerous other efforts to safeguard Soldiers in Iraq and Afghanistan are being undertaken by RDECOM's other centers, among them the Tank-Automotive Research, Development and Engineering Center in Warren, Mich., where engineers are working to develop technologies for an improved Humvee.

The vehicle's performance, though lauded by the Army as one of the most versatile and rugged of Army vehicles, showed its shortcomings in Iraq and Afghanistan. Those include inadequate power, limited passenger space and vulnerability to improvised explosive devices, Defense Department officials said.

At the Association of the U.S. Army winter symposium at Fort Launderdale, Fla., in March, BAE Systems showed off a demonstrator that boasted high-tech modifications to the Humvee. Many of the improvements are a result of the work BAE has done with the Army to field the Future Combat Systems family of vehicles in 2010.

Easing the Search

T'S approaching noon at Forward Operating Base Santa Fe, a mock FOB situated in the rugged terrain of the National Training Center at Fort Irwin, Calif.

A white Jeep rolls up to the entry-control point, leaving a plume of dust behind it. A guard pulls back the concertina wire, while another directs the Jeep to pull into a 10-foot-wide tent. A man in civilian attire exits the Jeep, under the watchful eyes of one sentry, while two more sentries search the vehicle for improvised explosive devices.

At most ECPs, Soldiers use flashlights and convex mirrors to check a vehicle's engine compartment, undercarriage, and other inaccessible areas. During Operation Sand Castle, Spc. Daniel Foster — whose unit, the 955th Engineer Company deployed to NTC from Fort Leonard Wood, Mo. — used the latest in vehicle-borne IED-detection technology.

Using fiber-optic lighting, telescoping cameras, and flexible "light wands," Spc. Foster and the other guards were able to search vehicles faster and more effectively than before, he said.

The entire process, in fact, took less than 10 minutes, said Spc. Foster.

"The new system gives Soldiers more control over what's going on," said 1st Lt. Kevin Ridenour, the force-protection officer for the 420th Engr. Brigade. "He has more time to concentrate on proper search techniques."

Most importantly, as the force-protection officer, 1st Lt. Ridenour lauds the new technology for minimizing risk to Soldiers.

Spc. Joshua Littlejohn, a heavy-equipment operator for the 955th, said the system he saw while deployed to Mosul, Iraq, from 2003 to 2004, "was pretty much whatever we could come up with at the time — whatever mirrors or flashlights we had. The new equipment helps us search better than we could before, because we can see places we couldn't see before."

Previously, Soldiers had to reach up into concealed areas of vehicles and search for hidden objects the best way they could, added Staff Sgt. James Snell, NCOIC of the FCP

Staff Sgt. Snell, who served at Camp Victory in Baghdad, likes the change. "Handsdown, this is a big improvement."

Continued on page 18



Spc. James H. Sarver, supply specialist for the 420th Engineer Brigade, from Bryan, Texas, uses a fiber-optic "light wand" to search a vehicle at an entry-control point at the National Training Center, Fort Irwin, Calif.

Continued from page 17

The most obvious change is the vehicle-search tent itself, said 1st Lt. Ridenour. "Most ECPs don't have them, because the floodlights they use are too big to fit inside one."

Fiber-optic lights, installed along the top and bottom of the tent, are more compact, easily portable and more effective. "Fiber-optic light doesn't cast a shadow," he said. "That's important, because the things you're looking for might be hidden in the shadows."

The same technology is integrated into fiber-optic "light wands," which "let you see in tight spots," said Spc. Foster. This can help Soldiers illuminate corners and crevices in the engine compartment and under a vehicle's dashboard.

The vehicle search tent also contains a "snake-eye" camera, which allows Soldiers to peer around obstacles without crawling into or under the vehicle, and an infrared camera to detect heat signatures generated by some explosive devices.

According to Staff Sgt. Snell, each of these features was designed in response to the vehicle-borne IED threat in Iraq.

While this system has been used at checkpoints at other military installations, the 420th, an Army Reserve unit, is the first to field-test it. "I think we're setting a standard here with this equipment, integrating it into the ECP," said 1st Lt. Ridenour.

To make the most of the new equipment, Soldiers must be trained in its use. Seventeen Soldiers were trained on the equipment and proper search techniques in three, eight-hour classes. Those Soldiers went on to train other Soldiers.

"We're trying to train as many as we can," said Staff Sgt. Snell. "We've been doing this for two days and have trained 36 additional Soldiers.

"I think the most impressive part of all this is the pride and initiative young Soldiers have shown. They've volunteered to work extra hours out here." he added.

— Sgt. Micah Wright, 362nd Mobile Public Affairs Detachment

Testing Vehicle Technology

T wasn't quite the Detroit Auto Show, but the military concept vehicles demonstrated at the Strategic Deployment Center at Fort Lewis, Wash., turned a few heads, nonetheless.

The five demonstration trucks — three utility vehicles and two maneuver-sustainment vehicles — were built by three manufacturers to help the Army in its quest for the next generation of tactical vehicles.

None of the concept vehicles will ever go into production, but ideas and technologies could be gleaned from all of them, Defense Department officials said.

The vehicles, part of a \$60 million Army program, were brought to Fort Lewis to

Lockheed Martin and IMG are developing the Future Tactical Truck System Utility Vehicle Demonstrator, which they put on show at the Strategic Deployment Center. undergo a military utility assessment — that is, to be tested by Soldiers who would then provide feedback, based on how the vehicles were used in various scenarios, said Col. John S. Myers, the Army's project manager for Future Tactical Systems.

Earlier, the vehicles had undergone a safety assessment at Aberdeen Proving Ground. Md.

Soldiers from the 5th Brigade, 2nd Infantry Division, and the 14th Engineer Battalion operated the vehicles at Fort Lewis. They drove the joint light tactical vehicles built by International Military and Government, and Lockheed Martin, while Soldiers from the 14th Engr. Bn. evaluated the maneuversustainment vehicles produced by Armor Holdings.

All the vehicles are loaded with such "bells and whistles" as diesel-electric hybrid



engines, companion trailers, cranes to load cargo and pull their own engines, forward-looking infrared radar and video cameras, improved ergonomics, fire-suppression systems and exportable power, Fort Lewis officials said.

"About every 25 years, the services have modernized their tactical vehicles," Col. Myers said. "Right now, the officials are concentrating on replacing the Humvee. It's still a great vehicle, but it's sub-optimized for the mission." It's lost much of its payload capacity and is now underpowered, he said.

The JLTVs, turned out by International and Lockheed Martin in just nine months to address the needs of the Army and Marine Corps, come in two versions.

The 18,500-pound International vehicle is the smaller of the two, said International's Mr. Gordon Wolverton. "My objective as chief engineer was to keep the vehicle small. It's easy to make things big. It's hard to make them small and still provide capability.

"It's not excessively roomy, but you've

got enough room. And we've had some Soldiers in here with their weapons, and they can assume a war-fighting position," Mr. Wolverton said.

International placed its hybrid engine in the rear to give Soldiers more room in the cab and added four-wheel steering, he said. The vehicle also has a remote weapons system.

"We designed it as an off-road truck with a lot of capability and gave it really good road-handling manners," Mr. Wolverton said. "One thing that we've really tried to do is make it very simple to drive."

The Lockheed Martin vehicle is larger — 25,000 pounds — and has a top speed of 75 mph. The vehicle has adjustable ride height, a tilt system in the truck and trailer for rough terrain, and a V-hull designed to deflect improvised explosive device blasts.

"Even the seat is designed to absorb some of the shock of the force coming up underneath," said Mr. Steven Walker, a Lockheed Martin spokesman. "And the seats can accommodate Soldiers wearing hydration systems and other bulky equipment."

The maneuver-sustainment vehicle by Armor Holdings has a fully robotic crane that can lift 13 tons of material off the ground.

"No other vehicle in the Army's inventory has anything like that," Col. Myers said. "There are only three of these cranes in the world. Two of them are on trucks that are displayed here. Another one is at the manufacturer's site in Sweden."

The MSV also has a remote weapons system, and the vehicle produces 30 kilowatts of exportable power, he said.

"It's really about the capabilities and technologies in the vehicles, not the vehicles themselves," Col. Myers said. "It's an advanced concept technology demonstration."

 Mr. Bob Reinert works for the Northwest Guardian newspaper at Fort Lewis, Wash.



Taste-Testing New MREs

OLDIERS in Heidelberg, Germany, taste-tested two new rations being fielded this year — an on-the-go compact ration based on pocket sandwiches, and a kind of kitchen-in-a-box that provides hot meals for 18 people with just the pull of a tab.

Representatives of the Natick Soldier Research, Development and Engineering Center in Natick, Mass., visited the Heidelberg Garrison dining facility to present new rations and the latest improved versions of Meals, Ready to Eat to Soldiers there.

"All of our rations are Soldier-recommended, tested and approved," said Department of Defense Combat Feeding Program integrator Kathy-Lynn Evangelos.

The stars of the demonstration were the compact First Strike Ration and the Unitized Group Ration-Express.

The FSR is a small package meant to be a substitute for three

MREs. It has fewer calories, about 3,000 versus the three MREs'

3,900, but is more compact. Better yet, water isn't a requirement for its preparation, other than the water that needs to be added to the accompanying beverage mix.

The meals themselves are in the form of pocket sandwiches, to be eaten by hand with a minimum of fuss. Ms. Evangelos calls it the "assault ration."

"This is great for Soldiers on the go," said Sgt. 1st Class Mark Danley, V Corps' senior food-service sergeant. "For scouts, space is always a problem. They have to be as self-contained as possible, because when they move out of the forward-operating base they don't come back for a while."

Typically, Soldiers get ready by "fieldstripping" their MREs for minimum bulk by removing unwanted items.

Continued on page 20



Sgt. 1st Class Danley foresees Soldiers loading up on the FSRs and perhaps one of the group rations before moving out. A busy Soldier on the move will be able to just reach into his pack, pull out the meal and eat it.

And when things calm down enough to allow a more leisurely meal, the troops can pull out the Unitized Group Ration-Express.

The UGR-E is packed into a surprisingly compact carton. To heat the meal, a Soldier opens the box and pulls a tab to chemically heat four trays of food in about 35 minutes. The box contains everything needed for 18 meals.



The Unitized Group Ration-Express was one of the stars of a recent Natick Soldier RD&E Center demonstration in Heidelberg, Germany. The UGR-E provides an easy, portable way to prepare a hot meal in the field for 18 Soldiers at once, without the need for kitchen equipment.

"I think some of these are going to end up back at the dining facility," said Heidelberg Garrison food-service officer Mr. Christopher Jenkins. "The great thing about the UGR concept is that no cooks or kitchen equipment are required, and the meals taste good."

Mr. Jenkins knows from personal experience how hard it can be to get hot meals to Soldiers in the field. While at Fort Drum, N.Y., he supported the 2nd Battalion, 14th Infantry, but when the troops went to the field, food often went to waste, "because the Soldiers were always moving," he said.

Thirteen new MRE items were presented at the Heidelberg food-service demonstration, including items approved for further development up to fiscal year 2009. Every year, three to five items in the 24-menu MRE range are changed, Ms. Evangelos said.

"Variety is very important to Soldiers," she said. "They get bored eating the same thing day in and day out, so it's important to give them choices." — Mr. Juan R. Meléndez Jr., U.S. Army Garrison, Heidelberg, Public Affairs Office

CONBAILS PISD Story by Ms. Rachel Young Through Virtual Reality

NEW therapy for Post Traumatic Stress Disorder - which occurs after an individual is subjected to or witnesses a life-threatening event — is being fine-tuned at Madigan Army Medical Center in Washington.

Inside a virtual-reality helmet, the patient is afforded a 360-degree view of two scenarios, a convoy through the desert or a foot patrol through a city. A video-game style handset

controls movement through the scene. Beneath the platform on which the patient sits or stands, speakers provide the rumbling sensation of the convoy and the attack.

The scenario can be altered to fit the Soldier's experience. The scene can even be altered to create green tones reminiscent of an event witnessed through night-vision devices, if that is what triggered the Soldier's PTSD.

There are basically three clusters of symptoms that coincide with PTSD: re-experiencing an event,

which could include nightmares or flashbacks; avoidance, in which the patient avoids cues or reminders of the event; and hyper arousal or numbing, which could include hyper vigilance or suspiciousness, said Dr. (Capt.) Greg Reger, a clinical psychologist for the 62nd Medical Brigade.

"These symptoms occur at least one month after the traumatic event and significantly interfere with the Soldiers' work or their relationships," he said.

PTSD causes humans to associ-

Ms. Rachel Young works for the Northwest Guardian newspaper.

ate cues in the environment — that were previously normal — with life-threatening events. If a Soldier was in a convoy that was attacked in Iraq, he might associate that event with routine highway driving on his daily commute to work.

The current standard treatments for PTSD are exposure therapies. Dr. Reger uses the analogy of a child who fears dogs after being bitten to explain how the therapy works. The best way to diminish the child's fear is to slowly and progressively habituate the child to being around dogs again. The child might start by thinking about being around a dog and eventually work up to petting one, until he's again comfortable around dogs.

Exposure therapies can be difficult for combat-related PTSD, because Soldiers cannot be re-exposed to combat as a part of their therapy, Dr. Reger said. Previously, Soldiers

Sgt. Chad Parrott and Capt. Greg Reger demonstrate a simulator used in the treatment of PTSD at Fort Lewis's Madigan Army Medical Center. had to rely on recalling memories of combat, which can be very difficult and painful. That's where the new technology comes in.

"Virtual reality gives us a means of delivering potentially traumatic experiences to Soldiers in a way that was not possible before," Dr. Reger said.

Eventually, the technology may include a system that delivers scents, such as burning rubber or Iraqi spices, that could trigger memories for the Soldier. It is also designed to be able to monitor physical reactions, such as heart rates, which will help the clinician track the Soldier's reaction to the therapy, he said.

MAMC is the only Army medical center testing this particular virtual-reality technology, Dr. Reger said.

"Here at Fort Lewis, we have the only Army behavioral health technology office, which is intended to explore and develop a range of new technologies for Army behavioral health," said Dr. (Col.) Gregory Gahm, chief of MAMC's Department of Psychology. "Virtual reality is one of those technologies."

Currently at MAMC, the research team, which consists of Dr. Gahm, Dr. Reger and Dr. Robert Swanson, a research and post-doctoral psychologist, is collecting feedback from Soldiers who deployed in the last year and do not exhibit symptoms of PTSD. The goal is to get feedback from 300 Soldiers to make the technology as realistic and functional as possible. The team hopes to have virtual reality available as a treatment option by the end of the year.

The virtual-reality research project has been possible through collaboration among many organizations. The original research for the technology was done by Dr. Albert Rizzo at the Institutes for Creative Technologies at the University of Southern California, and was funded by the Office of Naval Research. The research to fine-tune the technology is being funded by Telemedicine and Advanced Technology Research Center.



CONTRACTOR OF THE PROPERTY OF

N the battlefields of Iraq and Afghanistan, Soldiers need more than beans, bullets and battle gear to win the fight and survive the war.

The U.S. Army Materiel Command is therefore constantly developing new vehicles and technologies to support warfighters. Following are a few of the latest warfighter "must-haves" developed by the researchers, scientists and engineers at AMC.

Ms. Tesia Williams and Ms. Beth Clemons work in the AMC Public Affairs Office.

Mine Resistant Ambush Protected Vehicle

The MRAP is a joint program under Marine Corps leadership. The Army's requirement is for 17,770 vehicles, including the six-passenger Category One, the 10-passenger Category Two and an ambulance variant. Given the urgency of the need to provide enhanced protection — as well as the amount of public and Congres-

sional interest — MRAP has become the highest acquisition priority in the Department of Defense.

MRAP vehicles will save lives by augmenting the current level of protection against mines and improvised explosive devices, using a V-shaped hull, improved armor protection and increased ground clearance, Army officials said. MRAP vehicles will increase troop survivability during a wide variety of missions.





Humvee Crew Extraction D-Ring

The Crew Extraction D-ring attaches to a Humvee using the existing combat lock-bolt pattern, and provides an anchor point for emergency removal of damaged doors. Combat locks on the up-armored Humvee secure occupants inside the vehicle during convoy operations and guard against forced entry from the outside.

Blowtorch Counter-Improvised Explosive Device System

The vehicle-mounted Blowtorch allows Soldiers in moving vehicles to detonate explosives from safe, stand-off distances. The newly developed system is being fielded to deployed forces.



Plastic Shaped Charge Assembly

PSCA is a hand-packed, shaped charge loaded with C-4 explosive by the user in the field. Remotely emplaced via robot, the PSCA destroys known or suspected unexploded ordnance with high precision. EOD operators can penetrate the ground more deeply than they can with lower-performance shaped charges to destroy buried IEDs.



Due to a low-fragmentation plastic housing, collateral damage is minimal, making the charge assembly ideally suited for use in urban terrain. No other current focused weapon is capable of equal performance with equivalently low collateral damage.

Semi-Automatic Sniper System

The XM-110 Semi-Automatic Sniper System, an anti-personnel and light-materiel weapon that fires 7.62mm ammunition to a maximum effective range of 800 meters, exceeds the rate of fire and lethality of the M-24 Sniper Weapon System. It has a rapid fire and rapid reload design, variable day optic sight, and 10- or 20-round magazine. Weighing 17.3 pounds (combat ready with suppressor), the XM-110 includes a detach-



able folding bipod and enhanced spotting scope.

Raven B

Weighing only four pounds, cruising at 30 miles per hour and dashing at 60 mph, the Raven B unmanned aerial vehicle's infrared and day electro-optic payloads provide real-time video for enhanced situational awareness. The UAV has a wingspan of 4.5 feet and is capable of providing 90 continuous minutes of air surveillance. In addi-

tion, when disassembled, the vehicle can fit inside a rucksack.

Cooling Vest

The Humvee cooling vest kit consists of four water-filled Air Warrior Microclimatic Cooling Garments. The vests are worn under body armor and are plugged into the Humvee's air-conditioning system. Fungicide-treated water from the AC system circulates through the vest, cooling its wearer.

Remote Explosive Detector

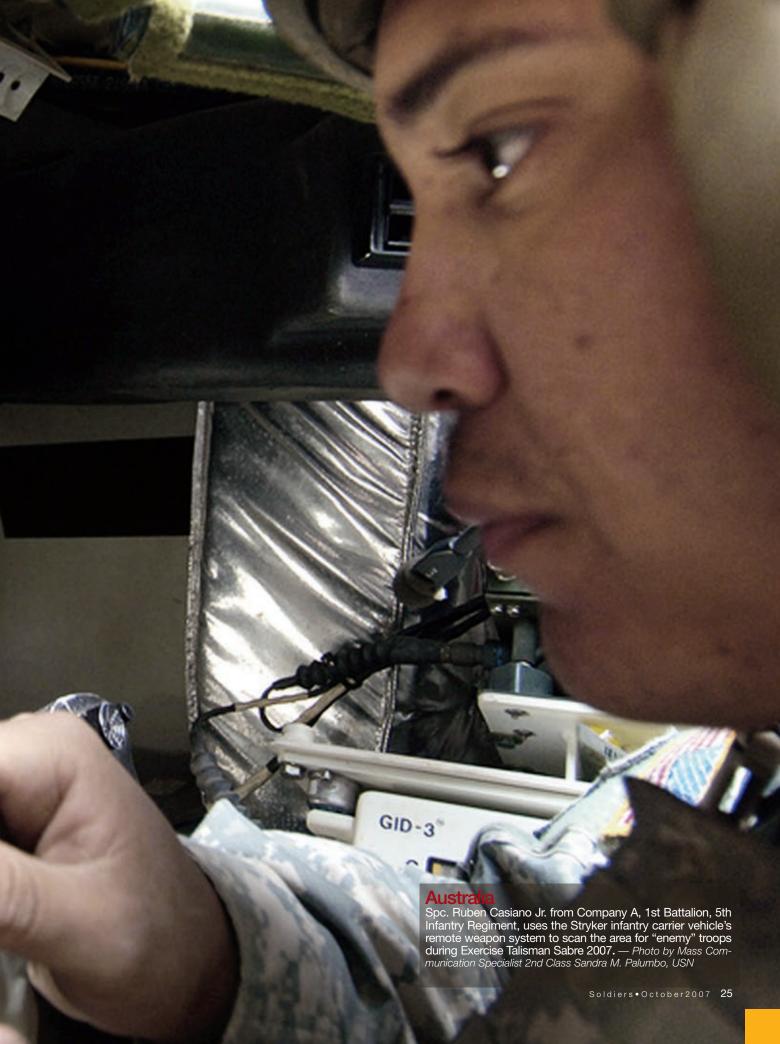
The Integrated Robotic Explosive Detection System incorporates an explosive trace detector onto a robotic platform. The robot gathers pertinent data about an explosive device and provides the user with a visual display of the results.

Ongoing Efforts

These "warfighter essentials" are only a few of AMC's ongoing efforts to provide the most advanced technology to allow Soldiers to engage and defeat an adaptive enemy, AMC officials said.

To meet the challenge, the command is continuously researching, developing and producing equipment and technologies as efficiently and effectively as possible, AMC officials said.





On Point



➤ Philippines
Capt. Natalie Wendling signs autographs for local children at a medical civic-action program during Exercise Balikatan 2007. — Photo by Petty Officer 2nd Class Johansen Laurel , USN



A Iraq
Members of the Sapper Company, 2nd Battalion, 8th Cavalry Regiment, huddle so the chaplain can give them words of wisdom and say a prayer before they head out on a night mission. — Photo by Sgt. Rachel M. Ahner



Afghanistan
A little boy holds the hand of Sgt. Resolve
Savage while he pulls security outside
a hospital during a medical-capabilities
program and humanitarian-assistance supply mission in Nuristan province. - Photo by Staff Sgt. Isac A. Graham



▲ Afghanistan

First Sgt. Dean Bissey hooks a helicopter hoist harness to Staff Sgt. Michael Hile and his military working dog "Ronnie." — Photo by Spc. Aubree Rundle



Fort Dix, N.J.

Maryland Army National Guard Soldiers scheduled for deployment to Iraq participate in an urban cordon-and-search exercise. — Photo by Staff Sgt. Russell Lee Klika



Story and Photos by Mr. Tim Hipps

HOUSANDS of military athletes from the Conseil International du Sport Militaire's 128 member nations are expected to compete during the fourth Military World Games Oct. 12 to 21 in Hyderabad, India.

CISM hosts military world championships in more than 20 sports every year, but the Military World Games — held every four years since 1995 — is CISM's premier event.

"We have two goals," said CISM

Mr. Tim Hipps is a public affairs officer with the U.S. Army Family and MWR Command Public Affairs Office.



president Brig.
Gen. Gianni
Gola. "It is fundamental for us to have great competitions, to have the best military athletes competing, and to extend our values by developing friendship through sport. The ultimate goal is peace."

Brig. Gen. Gola hopes to attract participants from 100 nations to the games, which are on the radar of both the International Olympic Committee and the United Nations.

"We are very young, but still strong," Brig. Gen. Gola said. "We strive to keep our competitive sports at a high level. We are considered a unique international sports organization. Thousands of military athletes, coaches, team captains and mission chiefs travel around the world to attend our events."

The United States joined CISM in

1951, said Lt. Gen. James Lovelace Jr., chief of the U.S. CISM delegation

"Our involvement in CISM strengthens vital military interactions and builds trust between our multinational partners," Lt. Gen. Lovelace said. "I applaud India for organizing the fourth Military World Games. Under the CISM motto, "friendship through sport," the games will hopefully produce extremely positive and long-lasting relationships."

About 120 U.S. military athletes will compete in India in boxing, judo, parachuting, sailing, shooting, soccer, swimming, track and field, triathlon, volleyball and wrestling.



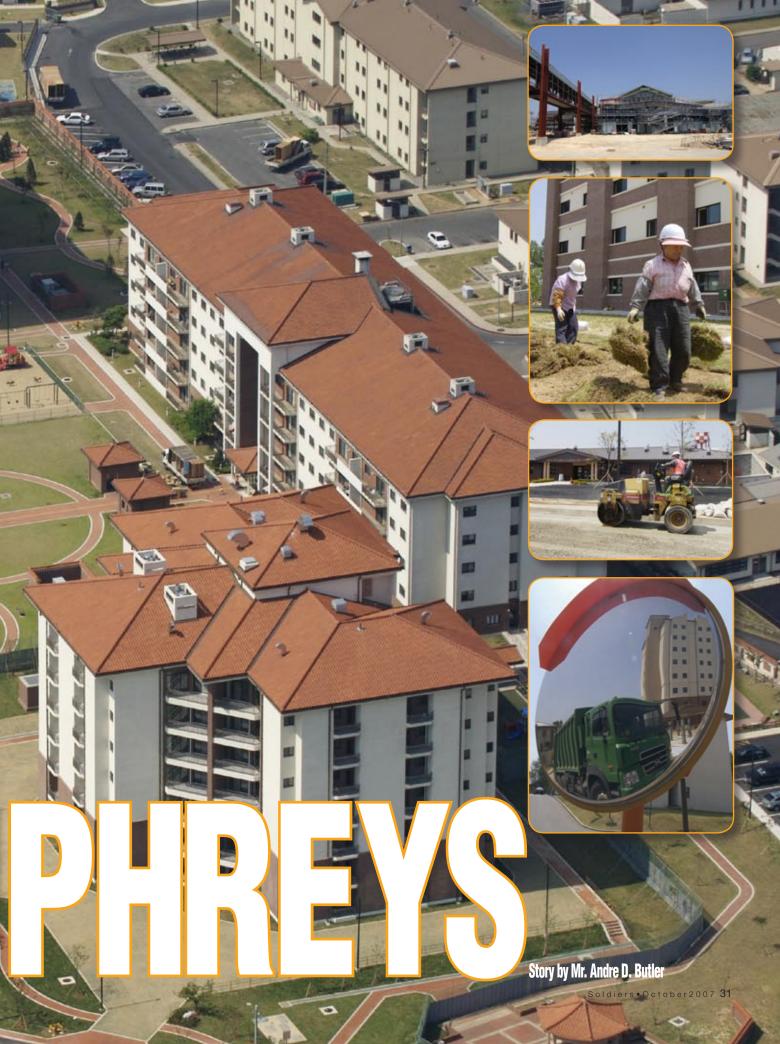
"This is going to be one of the most unique Military World Games, because it's not in Europe, as were the last three," Mr. Saty said. "This time it's in Asia. Representatives from Iran are coming, and we're hoping that Iraq and Afghanistan will send athletes as well. North and South Korea will be represented in individual sports.

"We have seen our athletes shake

hands with athletes from Iran and Syria. They have to be ambassadors," he added.

The U.S. military, in fact, received \$1.2 million from the chairman of the Joint Chiefs of Staff for the Military World Games because they are in Asia, a region deemed important to international relations by U.S. military officials.









13,000 family members. The garrison will also see a substantial increase in the number of Army civilians, Korean employees and contractors.

Relocation Plan

The plan to realign USFK and transform Humphreys has been in the works since 2002, said Mr. Fred Davis, program manager for the Army Relocation Office at USAG Humphreys.

"We are accruing 2,320 acres from the Korean government and are now implementing construction plans for the upgrade," Mr. Davis said.

"To support the realignment of U.S. forces, the Republic of Korea has committed significant resources to acquiring land for the relocation

- The ongoing transformation of Camp Humphreys will further enhance bilateral U.S.-ROK training opportunities, such as this airdrop exercise by ROK troops.
- The transformation will also enhance the operational capabilities of such resident U.S. units as the 2nd Combat Aviation Brigade.

One of several new athletic facilities under construction at Camp Humphreys, the new "Super Gym" will house a pool, three basketball courts, a running track, a weight room and locker rooms.

of our current Yongsan Garrison in Seoul and the 2nd Infantry Division north of Seoul," said USFK commander Gen. B.B. Bell. "This has not been politically easy, and the efforts of the Republic of Korea government and Ministry of National Defense deserve recognition.

"Under the Yongsan Relocation Plan and the Land Partnership Program, and in accordance with our ROK-U.S. Status-of-Forces Agreement, the United States returns vacated camp facilities, capital investments and land to the ROK, while consolidating into two main hubs south of Seoul," Gen. Bell said.

"When the transformation is complete, we will have returned 59 camps and all their facilities and buildings. Thus far, 30 camps have been returned. Our forces will be in a much better position to support the





defense of the ROK and U.S. national interests," Gen. Bell added.

Normalization of Tours

The USAG Humphreys Real Property Master Plan is another intricate part of the Humphreys transformation. It is the "blueprint" that outlines the land, buildings and facilities required to support relocation missions.

Gen. Bell's vision is to provide stable tours for married and single servicemembers, and world-class support facilities to make Soldiers' tours personally and professionally rewarding. This will be achieved by constructing state-of-the-art family housing and support facilities.

Brig. Gen. Aycock said Camp Humphreys is well on its way to becoming one of the Army's premier centers of readiness and support.

"It is paramount that we provide the best support possible for our

- The camp's new, first-class child-development center will ensure a safe, modern and efficient environment for more than
- New multi-story single-Soldier housing units are replacing earlier Quonset huts, and provide safe, modern living space.

Soldiers and their families. They deserve it, and we are committed to making this a world-class installation — planned from start to finish with Soldiers and families in mind," Gen. Aycock added.

Building Up, Instead of Out

Although Humphreys will span about 3,500 acres by 2012, the land area will not support a massive sprawl of buildings as are common at posts in the continental United States. Therefore, building up instead of out is the construction philosophy.

Family housing units and barracks will be multi-story buildings, as will many of the other new facilities on post, said Vince Grewatz, chief

The USAG Humphreys Real Property Master Plan is the "blueprint" for the post's transformation.



of Installation Management Command-Korea Region's Public Works Division.

"We are creating a new city from the ground up," said Mr. Davis. "It's not every day that you are charged with a project of this magnitude. So our goal is to build a model Army community that will be unlike any other the military has seen. This project is an estimated \$8.25 billion deal — larger than any project that's on the table in the States today."

"We are building residential, vehicle-maintenance and company-operations complexes. They will include barracks, dining facilities and recreational centers — all within walking distance of the Soldiers' new worksites," said Mr. Bart Mirabal, director of USAG Humphreys' Directorate of Public Works.

"Six new state-of-the-art gyms are also being constructed throughout the installation," Mr. Davis said.

Additionally, schools will be located within the community in which families live. This will make attendance safer and more convenient for students. Three elementary schools, one middle school and one high school are scheduled to be built.

One facility that is already open for business is the aquatics park dubbed "Splish & Splash." It is the only one of its kind open to servicemembers, civilian employees and family members throughout the



Korean peninsula. The park was specifically designed by IMCOM-Korea to provide the family fun available at popular water parks in the States.

The Master Plan also calls for construction of an 18-hole golf course that includes jogging, biking and walking trails.

Not Your Father's Korea

As the master plan for the future of Camp Humphreys took shape, officials said the post would be unrecognizable to Soldiers who served in Korea during the times of Quonset huts and one-year tours.

"Quality of life here will flourish," said Mr. Mirabal. "A new childdevelopment center is already underway. We are building more chapels for the expected population — and leaving open fields for families to enjoy however they please," he said.

USAG Humphreys will build a new commissary and post exchange

Opened in summer 2007, the popular "Splish & Splash" water park provides all the excitement and safety of similar parks in the United States.

shopping complex, and a food, beverage and entertainment center. And, the existing downtown shopping area is getting a facelift, Mr. Mirabal said.

"There will also be smaller shopping centers within individual housing communities," he said.

USAG Humphreys commander Col. John Dumoulin Jr. summed up the Humphreys transformation.

"We are taking what used to be a single-Soldier post and transforming it into a family and pedestrian-friendly community. Soldiers will be able to walk to work, and their children will be able to walk to school," he said.

One thing that will not change with the Humphreys transformation is the garrison's philosophy.

"We will continue to provide world-class customer service for our Soldiers, families, civilians and retirees," Col. Dumoulin said.



AMERICAN Forces Network-Korea provides daily radio and television programming to a target audience of some 50,000 joint-service members of U.S. Forces, Korea, Defense Department civilians, family members and retirees.

"One of the biggest services we provide is command information," said J. Douglas Griffin, AFN-K's director of broadcasting. "Those are the messages that commanders feel are important to get to their troops."

AFN-K's radio and TV programming combines live shows that focus solely on news from Korea with satellite feeds from the Defense Media Center in Riverside, Calif.. Mr. Griffin said.

AFN-K newscasts come together with input from five broadcast detachments, or affiliates, located across the Korean peninsula, said Airman First Class Peter Mellon, a broadcast producer and host of one of AFN-K's FM radio programs.

Each AFN-K detachment covers a specific area of the Korean peninsula for television and does its own local radio broadcasts. — Heike Hasenauer

Environmental safety procedures have ensured that the U.S. Army, Europe, is capable of. . .

Story by Ms. Kristin Miller

In preparation for the arrival of the 2nd Stryker Cavalry Regiment, Grafenwöhr is receiving 24 new maintenance pads and 24 refueling pads.

OR years, land at the U.S. Army Garrison, Grafenwöhr, Germany, disappeared as soil eroded from prolonged training, and constant vehicle traffic diminished the environmental quality of training areas.

These conditions caused military officials to question whether a Stryker unit could be trained at the northeastern Bavarian installation long known as the premier training ground in Europe for U.S. and coalition forces.

But by the time the 2nd Stryker Cavalry Regiment arrived in summer 2006, Grafenwöhr was ready. Officials

Ms. Kristin Miller works in the Grafenwöhr Public Affairs Office.



at the Environmental Division of the garrison's Directorate of Public Works assured the Stryker regiment's leaders that its Soldiers would be able to train at Graf, said Mr. Manfred Rieck, chief of the division.

"To get ready for the 2nd SCR, we built 24 maintenance and 24 refueling pads throughout the training area." Mr. Rieck added.

To do so, however, Grafenwöhr had to follow not only Army regulations, but also German and U.S. environmental rules.

Installation officials also had to ensure the land could sustain Stryker training over a long time.

First, environmental officials studied the effects of the Stryker vehicles on soil, vegetation and surface-water runoff. Extensive tests and field trials indicated that the soil in

Environmental protection and restoration efforts at Graf are intended to ensure that Soldiers will have the training areas they'll need in years to come. areas that were off-limits for tracked vehicles could better endure Stryker training with less negative impact on the environment than could the approved maneuver areas.

Secondly, the environmental division began several projects to manage erosion and soil compaction.

To keep soil from washing away in the rain or blowing away on windy days, the installation's environmental, operations and maintenance divisions, in cooperation with trainers, moved and cut open berms to eliminate erosion bottlenecks and contain stormwater runoff. The strategic rearrangement of berms also increased maneuver space, Mr. Rieck said.

The installation also reseeded 4,000 acres of training land with a mix of native grasses. The new groundcover not only anchored the soil, it also resisted vehicle traffic better, grew faster and did not disturb endangered species.

For places where the soil was so

hard grass couldn't grow, the team invented a roller with hardened steel teeth to loosen the soil without destroying existing protective vegetation. Using the device, engineers brought some 2,000 acres of land back to training condition in half the usual time, Mr. Rieck said.

Grafenwöhr's aggressive environmental program attests to the fact that Army installations can achieve true harmony between "mission execution and environmental stewardship," said Mr. Juan Lopez, a senior program analyst with the Office of the Federal Environmental Executive.

Mr. Lopez was a judge for the 2006 Secretary of the Army Environmental Awards, in which Grafenwöhr took the award for environmental quality in the Overseas Installation category, partially for its efforts in preparing for the 2nd SCR's arrival.

At the time this article was written, the unit was training at Grafenwöhr, Strykers and all.



A young National Guard Soldier has turned his 2004 Infiniti G35 into a highperformance work of art to honor three comrades killed in Iraq.











Tribute to the Fallen

Story by Mr. Steve Harding

IKE many "car tuners" — enthusiasts who take relatively average automobiles and turn them into high-performance works of art — Army National Guard Sgt. Nicholas Ashby wanted to turn his 2004 Infiniti G35 into something special.

But while most tuners adorn their rides with nature scenes, swirling abstract images or sultry pinups, Sgt. Ashby had a loftier subject in mind. He wanted to create a movable tribute to three fallen comrades — 1st Lt. Andre D. Tyson, Sgt. 1st Class

Michael C. Ottolini and Sgt. Patrick McCaffrey.

The three were members of Sgt. Ashby's Guard unit, and all were killed during the unit's year-long Iraq rotation. And not only were they fellow Soldiers, the young sergeant said, they were also friends who deserved to be remembered.

"I always wanted to do something for them when I got home," Sgt. Ashby said. "And I ultimately decided that this would be a great way to pay tribute to them."



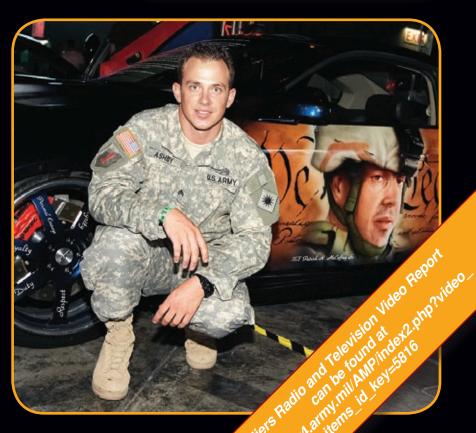






He started work on the car about a year after his return from Iraq, and with the help of artists and other specialists he created what judges at competitions around the country have declared to be among the best import tuners currently on the show circuit.

While the awards and accolades his car have received are gratifying, Sgt. Ashby said that the car symbolizes something far more important.



Suicide-Prevention Hot Line Opens

TO ensure veterans with emotional crises have round-the-clock access to trained professionals, the Department of Veterans Affairs has opened a national suicide-prevention hot line for veterans.

The toll-free hot line — (800) 273-TALK (8255) — is staffed by mental-health professionals in Canandaigua, N.Y. They take toll-free calls from across



the country and work closely with local VA mental-health providers to help callers.

The VA provides mental-health care to about one million veterans each year, making it the largest provider of mental-health care in the nation. — Army News Service

Help With Citizenship, Immigration Questions

SERVICEMEMBERS and their families stationed around the world are now able to call U.S. Citizenship and Immigration Services for help with immigration services and benefits using a dedicated, toll-free telephone help line — (877) CIS-4MIL (247-4645). Customer-service specialists are available Monday through Friday from 8 a.m. until 4:30 p.m., Central Standard Time.

Callers will receive assistance with:

- Tracking their applications for naturalization (Form N-400);
- Notifying USCIS of new mailing addresses or duty stations;
- ☐ Checking the status of applications or petitions;
- Bringing a spouse, fiancé or adopted child to the United States:
- Obtaining posthumous citizenship for a deceased member of the armed services; and
- Submitting applications for expedited processing. After-hours callers will receive an e-mail address that they can use to contact USCIS for assistance.

USCIS has also developed a Web page, www. uscis.gov/military, with information and links to services specifically for the military and their families. — ARNEWS

USFIT Eliminates Sizing Shortfalls

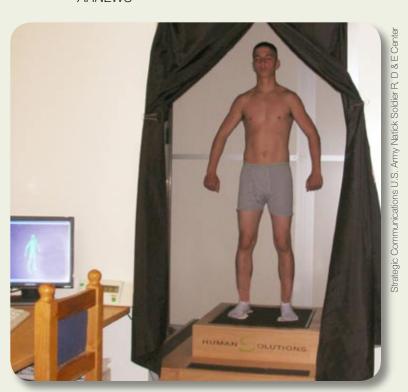
SIZING shortfalls in clothing and equipment distributed at central issue facilities will soon be a thing of the past, thanks to the new Uniform System for Improved Tariffs program.

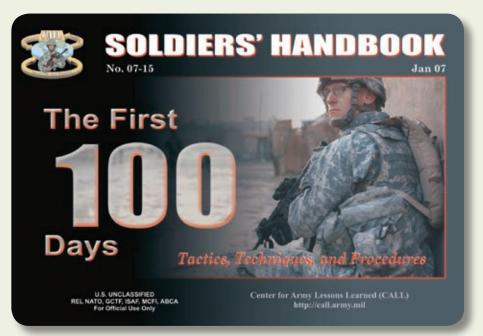
Correctly fitting Soldiers usually involves a guessing game of small, medium, large or extralarge, and depends on the sizes available.

The USFIT program uses 3-D, whole-body scanners to record the shape of Soldiers' bodies.

The data is archived in the Integrated Database for Engineering Anthropometry of Soldiers to provide a better overall description of the user population.

The IDEAS database will assist developers in the design of current and next-generation clothing and equipment, including future combat systems. — *ARNEWS*





NEW HANDBOOK on Surviving in Iraq

THE new "Soldier Handbook: Surviving Iraq" is now available at https://call2.army.mil/new/toc.asp?document=2393.

The publication gives Soldiers tips on how to increase their chances of surviving their first 100 days in Iraq, a time when the casualty rates of incoming units are usually highest, said Col. Steven Mains, director of the Center for Army Lessons Learned at Fort Leavenworth, Kan.

The handbook educates Soldiers on how not to become complacent to potential dangers and to be mindful of resourceful enemies who closely

observe U.S. tactics to adapt their attack strategies, said Col. Mains.

The handbook is based on responses from more than 1,700 Soldiers. About 1,000 of the responses were drawn from interviews with redeploying units in Kuwait and Soldiers at Fort Hood, Texas; Fort Carson, Colo.; and Fort Stewart, Ga. The remaining responses came from a 23-question survey that CALL placed on its Web site.

Among the recommendations Soldiers made were:

- ■Stay aware of your surroundings;
- ■Avoid routine or predicable patterns;
- Follow standard operating procedures, and
- Substitution Use I we will be substituted as a substitution of the substitution of the
- ARNEWS



eKnowledge for Servicemembers and Families

A COMPANY that makes testpreparation products for students gearing up for college entrance exams is offering free materials to servicemembers and their families, sacrificing a chunk of its bottom line for those on the front lines.

eKnowledge is an online- and

CD-ROM-based learning program that teaches test-taking techniques for the Scholastic Aptitude Test and American College Test.

The company plans to soon offer complimentary programs to Junior ROTC members.

SAT and ACT exam scores often

weigh heavily in college admission judgments toward an applicant's acceptance or rejection.

Servicemembers interested in receiving free eKnowledge products can complete an online request form at www.militaryhomefront.dod.mil by following the link to "Donation: VSG/NFL Players." JROTC cadets should visit sat.eknowledge.com/JROTC.

- American Forces Press Service

Information requests can also be made by calling eKnowledge at (951) 256-4076 or by e-mail at www.support@eknowledge.com.

Sharp Shooters

Sgt. Brandon Aird of the 173rd Airborne Brigade Combat Team Public Affairs Office captured these images during Operation Saray Has, just after U.S. Soldiers and Afghan troops air-assaulted onto Landing Zone Shetland. The serene landscape is deceptive — Taliban fighters have been using the area as a base for attacks against Task Force Saber's nearby Forward Operating Base Naray.





Two Afghan National Army troops talk with a local goat herder. The ANA worked closely with Headquarters and HQs. Troop, 1/91 Cav., during the planning and execution of the operation.

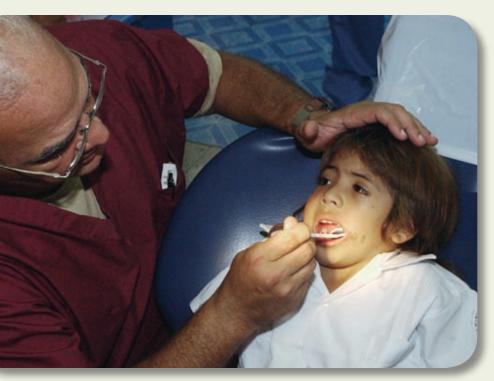
- Command Sgt. Maj. Victor Pedraza of 1st Squadron, 91st Cavalry Regiment, scouts out possible enemy positions soon after the Soldiers arrived at LZ Shetland, which was located in a large meadow on the top of a 10,000-foot-tall mountain.
- Capt. Nathan Springer of HHT, 1/91 Cav., leads Soldiers up a steep mountain path while on patrol during Operation Saray Has. During the operation two rocket positions were found that had been previously used to attack FOB Naray, an attack that injured seven Soldiers.
- An HHT Soldier watches cattle run for their lives as a CH-47 Chinook helicopter prepares to land on LZ Shetland.





Dentists Care For Honduran Children

Tegucigalpa, Honduras



HUNDREDS of Honduran children received muchneeded dental care during a recent two-week joint Army-Air Force Medical Readiness Training Exercise.

Dentists and dental technicians from Fort Sill, Okla., and forts Hood and Sam Houston, Texas, were augmented by medical personnel assigned to Soto Cano Air Base, Honduras.

"The main mission is to train," said Army Dr. (Lt. Col.) Manuel Marien, a Fort Hood pediatric dentist who has performed this mission six times in the last six years.

Conducting the medical training in a foreign country helps the doctors and technicians learn to work in austere environments.

The children were taught the importance of good nutrition, and of brushing and flossing. Dental hygienists performed cleanings before the dentists began their work.

In exchange for the use of facilities at Tegucigalpa's Catholic University Dental School, Dr. Marien lectured dental students on the techniques of pediatric dentistry, a specialty not yet taught in Honduras.

The team saw some 300 patients during the two-week mission.

— Tech. Sgt. Sonny Cohrs, USAF, Joint Task Force-Bravo Public Affairs

Hawaii Guard Fights Fires

Waialua, Hawaii

A DOZEN Hawaii Army National Guard Soldiers preparing for Hurricane Flossie quickly shifted their focus to fire fighting when the hurricane bypassed Oahu and a wildfire broke out on the island's northwest coast.

Two Hawaii Guard CH-47 Chinooks were called on to perform water drops in support of ground units tackling the blaze. Using "Bambi buckets" suspended beneath the helicopters, the Guard aviators dropped 474,000 gallons of water in two days.

"We put in some long hours, which resulted in dropping about 4.02 million pounds of water over the course of 230 drops in about a 30-hour period," said Col. Stephen F. Logan, the Hawaii Guard's Army aviation officer.

"To rapidly transition to a fire-fighting mission from a hurricane mission is a testament to the air crew proficiency level and the versatility of their leadership," he said.

The Guard aviators carried out the challenging and potentially dangerous mission without a single mishap or injury, and still managed to successfully perform their day-to-day missions, Col. Logan said.

— Capt. Regina Berry, Hawaii Army National Guard Public Affairs



Brushing Up on Weapon Skills

Albuquerque, N.M.

THE New Mexico National Guard recently hosted a 40-hour "gunfighter course" at the Albuquerque Police Department's range that helped Guard Soldiers, Border Patrol agents, police and corrections officers brush up on their small-arms skills.

The New Mexico Air National Guard loaned the weapons, and the state provided the ammunition.

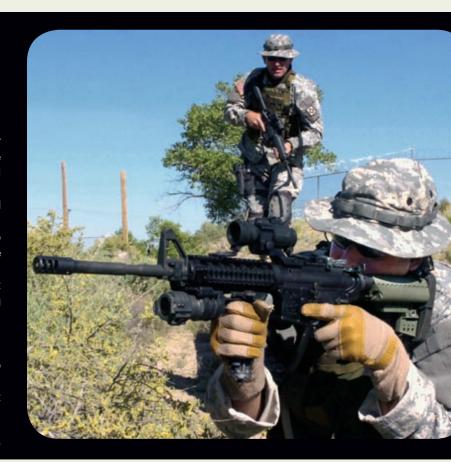
This year's course included Guard Soldiers who are about to deploy. Those attending the Gunfighter Course said that the course improved their weapons-handling speed and combat skills.

Skills covered include how to assemble individual gear so it functions in the smoothest way with the carbine and pistol; shooting on the move; tactical reloading; weapons handling and manipulation; and clearing malfunctions.

Other important skills include engaging multiple targets, shooting from different positions and shooting in close proximity to other Soldiers - all under strict time constraints.

Shooters also tackled an obstacle course and an exercise that followed a scenario involving terrorists.

— Staff Sgt Jim Greenhill, National Guard Bureau Public Affairs Office





Show Recounts Subsistence History

Fort Lee, Va.

LOOK for a lighthearted look at the Army's Quartermaster Center and School to be broadcast on the Food Network this fall.

Producers of the weekly program "The Secret Life of..." said their 30-minute program examining the history of "military subsistence" will air sometime in November or December.

"Our show will go back to ancient times, to the Roman army, and kind of trace military meals to today, culminating with the pinnacle of providing quality meals in army-sized quantities today," said Philip Brody, the show's writer and director.

The show's production crew visited Fort Lee to shoot footage of food-service specialists training in mobile kitchens, and interviewed such Army culinary professionals as food-service adviser Chief Warrant Officer 5 Jack C. Van Zanten.

"I think the show will give audiences an idea of what food-service Soldiers have to do and some of the challenges they face in preparing meals in a field environment," he said.

The Quartermaster School trains more than 5,000 servicemembers each year under its Culinary Arts Program.

On air since 2003, "The Secret Life Of..." specializes in the history of food and why people eat what they eat.

— T. Anthony Bell, Fort Lee Traveler

Soldiers Provide Medical Care for Vietnamese

Hue, Vietnam

SOLDIERS and other servicemembers from U.S. Army, Pacific, and U.S. Pacific Command treated more than 3,000 people during a recent joint medical mission to a city that was the site of a major Vietnam War battle.

Among the 45 U.S. personnel were surgeons, physicians, preventive-medicine and biomedical specialists, dentists, hygienists, nurses, civil engineers and support personnel.

At Hue Central Hospital, joint U.S.-Vietnamese teams exchanged information on the latest medical and surgical techniques and performed operations that included open-heart surgery, knee replacement,

and facial reconstruction for a woman disfigured during the war.

Additionally, temporary clinics were set up to provide care to underserved people in outlying areas.

The teams also partnered with local residents to improve living conditions in the villages. Personnel repaired classrooms and established water lines at two elementary schools.

American and Vietnamese workers used hand tools to perform excavations and pour concrete in high heat and humidity.

— George O'Brien, Foreign Affairs Officer, U.S. Army, Pacific



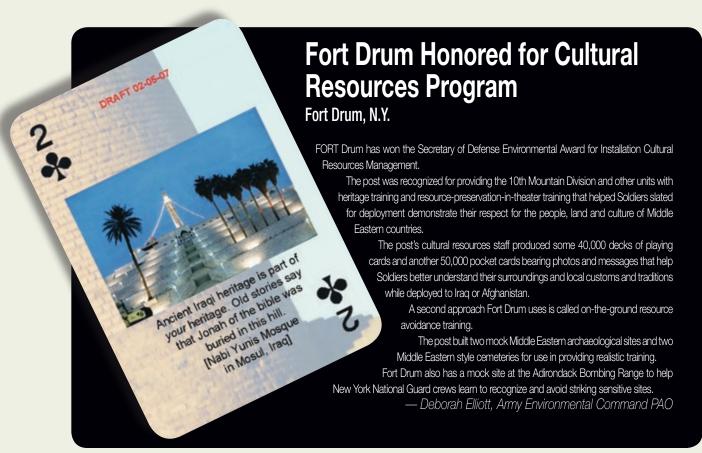
Soldier Secures Olympic Berth

Rio De Janeiro, Brazil

Army World Class Athlete 1st Lt. Mickey Kelly of Fort Carson, Colo., rides Tai Pan in the equestrian portion of the women's modern pentathlon at the XV Pan American Games.

First Lt. Kelly won the bronze medal and secured a berth in the 2008 Olympic Games in Beijing, China.

— Tim Hipps, U.S. Army Family Morale Welfare and Recreation Command PAO



New Chinook Unveiled at Fort Campbell

Fort Campbell, Ky.

"How appropriate that we come together here Maj. Gen. Jeffrey Schloesser, 101st Airborne Division

Safety is the best thing about the new model,



State-of-the-Art **Exercise**

Fort Benning, Ga.

WITH the dedication of the Sgt. 1st Class Paul R. Smith Fitness Center, Soldiers and family members at Fort Benning, Ga., now have a 100,000 square-foot, state-of-the-art exercise facility.

And those stationed at other Army installations have a model for future fitness facilities.

The new \$19 million fitness center is the first built using criteria established by the U.S. Army Corps of Engineers' Centers of Standardization.

The centers develop templates for how future facilities will look, and the templates can be tailored according to commanders' needs and what's already available on an installation.

USACE employees created the design in cooperation with local sports and fitness experts,

and the U.S. Army Family and Morale, Welfare and Recreation Command.

Amenities include a 10,000-square-foot, twostory weight room with a cardio theater; a three-court gymnasium for basketball and volleyball; a lap pool, recreational pool and hot tub; a large aerobic room that can be divided into two rooms; and a women's

weight room.

A similar, but larger, fitness center is being constructed with the same criteria at Fort Bliss.

> — Debra Valine, Army Corps of Engineers' Engineering and Support Center, Huntsville, Ala.



From Pianos to Officer Candidate School

"With all that's

world, I want

still can."

going on in the

to serve while I

ATTHEWW. Asmus Jr. looked sharp in his dark blue pinstriped suit, playing the piano in his final graduate performance at the University of South Carolina's School of Music Recital Hall.

He played music by Mozart, Bach, Debussy and Rachmaninoff with the ease of someone who has been doing it for years.

"He has been playing for as long as I can

remember," said his cousin, Ms. Kim Pritchett, who came down from Charlotte, N.C., to attend the recital. Mr. Asmus's parents also flew in from Bountiful, Utah, where their son was raised.

He graduated in May with a master's degree in music from the University of South Carolina. Following graduation, he enlisted in the Army.

"With all that's going on in the world, I want to serve while I still can," Mr. Asmus said.

Ms. Leslie Ann Sully works in the U.S. Army Recruiting Command Public Affairs Office.

"I had talked with recruiters when I was in high school, but my mom was a little scared back then. I told my wife that I want to set a good example for our kids and give our family a better way of life."

Mr. Asmus said that he and his wife, Mandy, jointly explored their options about Army life before visiting the local Army recruiting station.

His recruiter, Staff Sgt.
Darryl Bogan, suggested
The Army Band, Pershing's
Own, as one career
option.

"When he told me about his education, I thought the band would be the logical fit for him, but he said no, he had been playing piano his whole life," Staff Sqt. Bogan said.

At first, Mr. Asmus thought about becoming a special forces Soldier. But, there were no training slots available at the time he enlisted, so he decided to join the Army as an officer, in hopes of getting into the military intelligence branch. He learned he could apply



Mrs. Mandy Asmus with daughters Meishe (at right) and Eliana.

to become a special forces Soldier later on.

Mr. Asmus is now Pvt. Asmus, having completed basic training at Fort Jackson, S.C. When this article was written he was on his way to Fort Benning, Ga., to begin Officer Candidate School.

While completing his Army packet, he also checked the box for Airborne School and Ranger School, should opportunities to attend either become available to him. In the meantime, he's already received \$30,000 to help repay his student loans.

Mrs. Asmus said she understands her husband's desire to do something totally different from playing a musical instrument.

"Sometimes you have to do what you want to do, even if it seems odd to others," she said.

She also knows that her husband is very happy with his decision. "All the guys in the family sat around watching old war movies and talking about military service before he left for basic training."

"I'll still play the piano," Pvt. Asmus said, "just not as often. My zest for playing isn't what it used to be, but I will still probably play at church."



Staff Sgt. Darryl Bogan stands proudly beside his recruit, Matthew W. Asmus Jr.

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